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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,759	11/29/2001	Peter Larsson	040001-128	2032

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EXAMINER

CORRIELUS, JEAN B

ART UNIT PAPER NUMBER

2637

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,759

Applicant(s)

LARSSON, PETER

Examiner

Jean B Corrielus

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2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,5,9,11-15,18,19,23,26,27 and 31 is/are rejected.
- 7) ☒ Claim(s) 1-3,6-8,10,16,17,20-22,24,25,28-30,32 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/15/02</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-33 are objected to because of the following informalities: claim 1, lines 2-3, "with at least one antenna" should be replaced by "with at least two antennas" so as to be consistent with subsequent limitation in line 16 that requires at least two antennas; line 5, "one antenna" should be replaced by "two antennas"; line 6, "mobile" should be replaced by "receiving"; line 14, after branch, "to generate cyclically rotated training sequences $p(n-n_1)$, $p(n-n_2)$ " should be inserted so as to provide proper antecedent basis for subsequent limitation, recited in lines 15-16; line 16, "different" should be replaced by "said at least two"; line 18, after unit, "receiving the cyclically rotated training sequences" should be inserted to provide antecedent basis for recitation in line 18; line 19, "cyclically rotated" should be inserted before transmitted.

Claim 2, line 7, "mobile" should be replaced by "receiving"; line 14, after branch, "to generate cyclically rotated training sequences $p(n-n_1)$, $p(n-n_2)$ " should be inserted so as to provide proper antecedent basis for subsequent limitation, recited in lines 15-16; line 16, "different" should be replaced by "said at least two"; line 18, after unit, "receiving the cyclically rotated training sequences" should be inserted to provide antecedent basis for recitation in line 18.

Claim 16, line 3, "with at least one antenna" should be replaced by "with at least two antennas" so as to be consistent with subsequent limitation in line 16 that requires at least two antennas; line 6, "one antenna" should be replaced by "two antennas"; line

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14, after branch, "to generate cyclically rotated training sequences $p(n-n_1)$, $p(n-n_2)$ " should be inserted so as to provide proper antecedent basis for subsequent limitation, recited in lines 15-16; line 16, "different" should be replaced by "said at least two"; line 18, after unit, "receiving the cyclically rotated training sequences" should be inserted to provide antecedent basis for recitation in line 18; line 19, "cyclically rotated" should be inserted before transmitter; line 19, "transmitter" should be "transmitted". In addition, a goal to a system is set forth in the preamble. However, the body of the claim does not recite any structure relating to the system. The claim recites only a series of steps and appears to be a method claim rather than an apparatus claim.

Claim 20, recites a first step and a second step, however it is noted that claim 20 is an apparatus claim not a method claim. Apparatus type claims do not include steps. The same comment applies to claim 21, 28, and 29

Claim 24, line 4, "least one antenna" should be replaced by "least two antennas" so as to be consistent with subsequent limitation in lines 16-17 that requires at least two antennas; lines 6-7, "one antenna" should be replaced by "two antennas"; line 14, after branch, "to generate cyclically rotated training sequences $p(n-n_1)$, $p(n-n_2)$ " should be inserted so as to provide proper antecedent basis for subsequent limitation, recited in lines 15-16; line 16, "different" should be replaced by "said at least two"; line 18, after unit, "receiving the cyclically rotated training sequences" should be inserted to provide antecedent basis for recitation in line 18; line 19, "cyclically rotated" should be inserted before transmitted.

Claim 32, line 3, "least one antenna" should be replaced by "least two antennas" so as to be consistent with subsequent limitation in line 14 that requires at least two antennas; line 5, "one antenna" should be replaced by "two antennas"; line 12, after branch, "to generate cyclically rotated training sequences $p(n-n_1)$, $p(n-n_2)$ " should be inserted so as to provide proper antecedent basis for subsequent limitation, recited in lines 13-14; line 14, "different" should be replaced by "said at least two"; line 16, after unit, "receiving the cyclically rotated training sequences" should be inserted to provide antecedent basis for recitation in line 16; line 17, " $s(n-n_1)$, $s(n-n_2)$ " should be replaced by " $p(n-n_1)$, $p(n-n_2)$ "; line 17, "cyclically rotated" should be inserted before transmitter; line 1, "transmitter" should be replaced by "transmitted". In addition, a goal to a system is set forth in the preamble. However, the body of the claim does not recite any structure relating to the system. The claim recites only a series of steps and appears to be a method claim rather than an apparatus claim.

Claim 33, lines 2-3, "with at least one antenna" should be replaced by "with at least two antennas" so as to be consistent with subsequent limitation in lines 16-17 that requires at least two antennas; lines 6-75, "one antenna" should be replaced by "two antennas"; line 14, after branch, "to generate cyclically rotated training sequences $p(n-n_1)$, $p(n-n_2)$ " should be inserted so as to provide proper antecedent basis for subsequent limitation, recited in lines 15-16; line 16, "different" should be replaced by "said at least two"; line 18, after unit, "receiving the cyclically rotated training sequences" should be inserted to provide antecedent basis for recitation in lines 18-19; line 19, "cyclically rotated" should be inserted before transmitted.

Note that any claim whose base claim is rejected is likewise objected.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 5, 9, 11-15, 18, 19, 23, 26, 27, 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 4 recites the limitation "the delay spread" in 4. There is insufficient antecedent basis for this limitation in the claim.

The same comment applies to claims 5 and 27. In addition, the limitation "the distance between each step" is unclear as steps are not known to have distance.

Claim 11, line 3, "the preceding transformation" lacks of proper antecedent basis. The same comment applies to claim 12.

Claim 14, line 5, "the preceding window" lacks of proper antecedent basis. The same comment applies to claim 15.

Claim 18 recites the limitation "the delay spread" in 4. There is insufficient antecedent basis for this limitation in the claim. The same comment applies to claims 19, 26.

As per claim 23, line 2, it is unclear as to what "strongest positions" applicant refers to. The same comment applies to claims 9 and 31.

Note that any claim whose base claim is rejected is likewise rejected


Allowable Subject Matter

5. Claims 1-33 would be allowable if amended to overcome the 112 rejection and/or claim objection as set forth above.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-3086. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean B Corrielus
Primary Examiner
Art Unit 2637 3/3/05